

Optical Coherence Domain Reflectometer—*InsideView™*

OCDR-1000

InsideView™ is an optical coherence domain reflectometer (OCDR-1000) designed to obtain space-resolved reflection information inside a fiber optical component, such as a Photonic Integrated Circuit (PIC), for diagnosing quality or design issues. It is based on a polarization optimized white light interferometer proprietary to General Photonics. It performs the functions of the discontinued Agilent 8504B Reflectometer - and more - but with better polarization management, spatial resolution, and accuracy; larger scan range and dynamic range; and smaller size and weight. It is a low cost alternative to OFDR technology, with a much higher dynamic range that avoids the masking of small reflection peaks by the large reflections typical of the input surface of an optical device.



InsideView™ can measure devices with a length of up to 600mm. A set of length matching delay modules is available to match the pigtail lengths of the devices to be measured and place the measurement span in the region of interest. With a reflection dynamic range of over 80 dB and a spatial resolution down to 10 μm, this instrument helps engineers and researchers see the inside of an optical device to precisely identify defects and their locations.

Preliminary Specifications

Operation Wavelengths	1310 nm , 1550 nm, Others available upon request
Return Loss Range	10 to 90 dB
Return Loss Accuracy ¹	±1.0 dB
Spatial Resolution ²	10 - 25 μm, depending on DUT dispersion
Spatial Accuracy ^{1,2}	< 0.1 mm (±0.01%)
Measurement Range ²	600 mm
Sweep Speed	20 mm/sec
Compatible Fibers	9/125 μm with connectors, others with fusion splices
Light Source:	
Peak Wavelength (s)	1310 nm ± 30 nm 1550 nm ± 30 nm
Spectral Width (-3 dB)	50 nm ± 10 nm
Average Power	> -3 dBm
Software	InsideView™ data analysis/display software
Operating Temperature	10 to 50 °C
Storage Temperature	-20 to 60 °C
Power Supply	100-240VAC, 50-60 Hz
Communications Interface	USB 2.0
Display	Notebook computer with USB connection
Connector Type	FC/APC standard or FC/PC
Dimensions	2U, ¼ 19" rack width 3.5" (H) x 14" (W) x 14" (D)

Notes

1. At 23±5°C.
2. Delay in air.

Ordering Information:

Instrument:

OCDR - 1000 - XX - XX

Wavelength:
13 = 1310 nm
15 = 1550 nm

Connectors:
FC/APC
FC/PC

Accessory Kit:

MKit - XX - XX

Connectors:
FC/APC
FC/PC

Fiber Lengths:

001: Set of 7 fiber-optic delay modules of lengths 1.2 to 3 meters, at 0.3m intervals.
Cust: Custom length fiber optic delay modules, to be specified by customer.

Applications:

- Optical Characterization of:
 - Photonic Integrated Circuits
 - Fiber Optic Components
- Accurate Measurement of:
 - Return Loss
 - Distributed Reflectivity

Unique Features:

- Dynamic Range: over 80 dB
- Scan range: 600 mm (400 mm in fiber)
- Spatial Resolution: down to 10 μm
- Compact & Lightweight
- Built-In Light Source
- Performs functions of discontinued Agilent 8504B Reflectometer- and More!

NOTES:

The OCDR-1000 comes with one 1 meter fiber optic delay module with connector type matched to the OCDR.